

ABSTRACT

The present invention has an object of improving the cooling efficiency of the process gas supply part of a plasma processor and thereby suppressing an increase in
5 the temperature of the process gas supply part.

Therefore, used in the present invention is a plasma processor having a processing vessel having a holder holding a substrate to be processed, a microwave antenna provided on the processing vessel so as to oppose
10 the substrate to be processed, and a processing gas supply part provided between the substrate to be processed on the holder and the microwave antenna so as to oppose the substrate to be processed, characterized in that the process gas supply part has multiple first openings
15 through which plasma formed in the processing vessel passes, a process gas channel connectable to a process gas source, multiple second openings communicating with the process gas channel, and a cooling medium channel through which a cooling medium cooling the process gas supply part
20 flows, wherein the cooling medium includes mist.